THURSDAY, AUGUST 27, 1914.

## *THE NEWER EDUCATION.*

(1) *Dr. Montessori's Own Handbook.* By Dr. M. Montessori. Pp. viii + 136. (London: Heinemann, 1914.) Price 3*s.* 6*d.* net.

(2) *The Montessori Method and the American School.* By Prof. F. E. Ward. Pp. xvi + 243. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1913.) Price 5*s.* 6*d.* net.

(3) *A Path to Freedom in the School.* By N. MacMunn. Pp. 162. (London: G. Bell and Sons, 1914.) Price 2*s.* net.

(1) A BOOK by Dr. Montessori is an event in the educational world; it creates an interest beyond that due to its intrinsic merit. The "Handbook" is a distinct advance on the "Method" in that the descriptions of how to use the apparatus are now given in orderly sequence and in much more detail; that the name "directress" is now replaced by "teacher," and that, instead of the "passivity," which was quite over-emphasised in the "Method," we read in the "Handbook" of what the teacher has to do as well as to refrain from doing; and the importance of *teaching* the right way to do actions is fully recognised. There is, too, less of that tendency to decry current knowledge and practice which has undoubtedly done much to hinder appreciation of her own valuable work.

Like the "Method," the "Handbook" is disappointing in that it says nothing of the difficulties the teacher meets when the children do not behave in the expected way, nor are the principles by which the teacher must be guided dealt with. The book is in truth a *Hand*book, with the limitations of the "Handbook" or "Manual," as contrasted with a *brain*-book intended for those who work by intelligent application of principles rather than by rules. The reader, too, should be cautious in accepting the few physiological or psychological statements it contains. For example, a sharp distinction is drawn between sensory and motor training though each involves the other; again, the psychology of the first paragraph of p. 122 will not withstand examination. But to those who have already grasped the principles on which their teaching should be founded, the "Handbook" will be of very real assistance. It gives, as might be expected, the best account yet published of how to use the apparatus. Dr. Montessori's deep sympathy with the child, her patience with its halting efforts, are beautifully visible throughout its pages. Patience, indeed, is not the right word, since it may suggest controlled impatience, and of impatience there is no trace; no matter how disappointingly slow the child's progress may seem to be, one cannot imagine Dr. Montessori doing otherwise than watching nature's progress with expectant and deeply interested hopefulness.

(2) Prof. Ward's book is for the most part a laborious, detailed, uncritical *résumé* of Dr. Montessori's views as given in "The Montessori Method." There are so many summaries, arranged numerically, and under (*a*), (*b*), (*c*), and so on, that the work is not stimulating—it does for the reader what he should do for himself. The best chapters are those not so directly dealing with Montessori practice.

(3) Of books criticising the meagre results of our secondary education there have been many, but none comparable in interest and importance with that of Mr. McMunn. Lively and vigorous in its English, sometimes putting conclusions more strongly than sober critics, even friendly ones may approve, it is, above all, valuable for its constructive side, and is the outcome of definite and successful experience. Inspired by Dr. Montessori's work, he endeavoured to found his class-teaching of older students on the concept of freedom, and the method of "partnership" was the outcome.

Nothing in education is wholly new, except perhaps the relative importance attached to the different means employed. Thus, in university classes in mathematics the writer, following the Jesuits, has for years put those students who understand to explain to those who do not—a plan excellent for both. Mr. McMunn improves much on this: in teaching French he arranges that the boys teach *each other,* irrespective of supposed ability; something like it has been done in teaching history, where by the aid of a school library each, even the most backward, is enabled to bring a contribution to the lesson.

Mr. McMunn has so worked out and applied his ideas that mutual self-education by the boys is carried to a much greater extent than in any other school, so far as the writer knows, and with extraordinary success—new intellectual life and interest have been generated in the boys, *especially in those who before were deemed stupid or backward.* If other teachers can use the method as he has used it, and apply it to other subjects, secondary education will take an immense stride forward.

In regard to little children, from Dr. Montessori in Rome; in regard to schoolboys from Mr.

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McMunn at Stratford-on-Avon; in regard to criminal or semi-criminal children of the streets, from Mr. Lane at the Little Commonwealth in Dorset, we learn of the wonders wrought by a wise respect for the individual personality of the pupil. Shall we learn the lesson they teach? Or shall we go on blindly in the ways of the past?

E. P. C.

## THE "CONWAY" MANUAL.

*The "Conway" Manual: being a complete Summary of all Problems in Navigation and Nautical Astronomy.* By J. Morgan, T. P. Marchant, and A. L. Wood. Pp. 79. (London: J. D. Potter, 1914.) Price 5s.

THIS manual of navigation, as taught on board the *Conway,* gives the courses of instruction the cadets of that vessel go through to prepare them to qualify as navigators afloat.

Quite properly the manual lays stress on the importance of all students being familiar with both plane and spherical trigonometry, as navigation is simply applied trigonometry, and entirely discards all rule of thumb methods, but in teaching the cadets the method appears to be to plunge at once into a statement of the formulas used—the sine formula, etc., without indicating what is meant by sines, cosines, tangents, etc. Surely in teaching beginners it is best to make plain what is meant by the expressions used.

In applying the formulas to practical navigation the manual adopts the method of zenith distances given by Marcq St. Hilaire about 1880, to the exclusion of all other methods. Now the method of position lines has been in use for nearly a century. When first started, the line of position was obtained by finding the longitude from the observation of the sun worked out with two latitudes some miles apart; the resulting longitudes gave a line on which the observer must be situated. When it became of importance to ascertain the compass errors, at the time of observation, the system of working with two latitudes was abandoned in favour of calculating the true bearings of the heavenly object, together with the longitude; as the observer must be on a line of position at right angles to the bearings of the heavenly object observed. If two heavenly objects were observed, in convenient positions with respect to each other, it is evident that the observer must be where those lines intersect, but even with one object only, by knowing the true zenith and polar distances, and the approximate co-latitude, the line of position on which the observer is situated can be placed on the chart at once, and frequently by steering along that line an accurate landfall be made. In this problem the only doubtful point is the co-latitude. By Marcq St. Hilaire's method an approximate hour angle is assumed, as well as an approximate co-latitude, and the true polar distance, to calculate an approximate zenith distance and true bearing, and the difference between the true zenith distance, as observed, and the approximate zenith distance, as calculated, plotted along the line of bearing of the heavenly object, and the lines of position parallel to each other plotted.

Lines of position are fully explained in Riddle's "Navigation," eighth edition, published in 1864, and can be obtained by the Marcq St. Hilaire method as well as by Sumners, or by calculating the longitude and azimuth of the heavenly body observed. When the sun is the heavenly object observed the zenith distance plan has the disadvantage of not giving the longitude and line of position. With two stars at or near right angles to each other this does not apply, but even then the method of calculating the longitude and line of bearing appears quite as advantageous as the zenith distance method. But what appears to be omitted from the "Conway Manual" in the practical work is all instruction relative to Dr. Ivory's method of double altitudes or to lunar distances, though in the case of the sun's double altitude given at page 74 the ship's position can be calculated at once by Dr. Ivory's method as expanded in Riddle's "Navigation," without trouble and without any plotting and position lines. Also, in the example of star double altitude at page 76, although the rate of the chronometer for a period of eighty-five days has to be applied to obtain the Greenwich mean time, nowhere is the student warned that in such a lapse of time the chronometer may, and probably would, have altered its rate, and that the most convenient way of ascertaining this in a ship at sea is by lunar observations.

It may perhaps be as well to point out also that in the problem on page 74, although the altitude at the first observation is corrected for the run of the ship, the latitude it is worked with is the approximate latitude of the ship at the first observation for both sets of the sun's altitude, at 11 a.m. as well as at 9 a.m. It will be found that if the hour angle and sun's bearing be obtained from the observations at 9 a.m., and the run of the ship be applied to that hour angle, as well as the elapsed time, a more correct hour angle will be obtained for the 11 a.m. observation, and the correct position got, as in the annexed diagram; where if A be the position of the ship at the

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